J. W. CARLSON.

JACK.

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909,364. Patented Jan. 12, 1909.

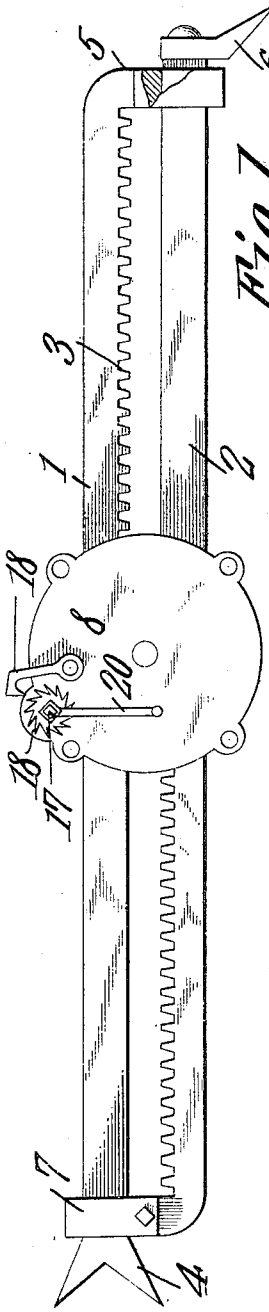


Fig. 1.

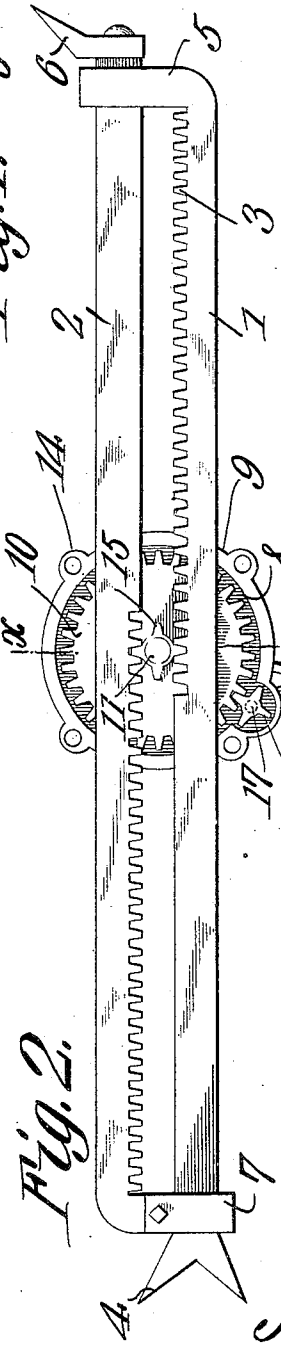


Fig. 2.

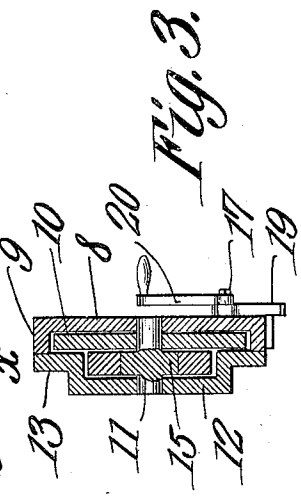


Fig. 3.

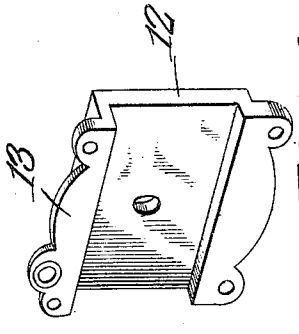


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

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JACK.

No. 909,364. Specification of Letters Patent. Patented Jan. 12, 1909.

Application filed January 28, 1908. Serial No. 413,023.

To all whom it may concern:

Be it known that I, JOHN W. CARLSON, a citizen of the United States, residing at Clifton, in the county of Clatsop and State of Oregon, have invented a new and useful Jack, of which the following is a specification.

This invention relates to jacks of that character particularly designed for use in logging although it can be employed for numerous other purposes.

The object of the invention is to provide a simple form of jack made up of oppositely movable toothed members designed to be actuated by a revoluble device common to both of said members, means being provided whereby the bars can be securely locked in any positions to which they may be shifted.

A further object is to provide a jack of this character having its operating mechanism completely housed and protected from dirt, etc., thus rendering the same particularly desirable for use in outdoor work.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claim.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is an elevation of the jack. Fig. 2 is a similar view thereof viewed from the opposite side and showing the face plate removed. Fig. 3 is a vertical transverse section through the jack, said section being taken on the line *x*—*x*, Fig. 2. Fig. 4 is a detail view of the cap plate.

Referring to the figures by characters of reference, 1 and 2 designate oppositely disposed similar jack members, the same being preferably formed of metal bars disposed in parallel relation and said bars being provided on their inner or adjoining face with racks 3 which may be integral therewith or connected thereto. Bar 1 terminates in a head 4 which may be forked and pointed as shown or may be of any other suitable form. The other end of this bar has an arm 5 extending at right angles therefrom and provided with an eye through which one end of the other bar 2 loosely extends. Said bar 2 has a finger 6 swiveled upon that end thereof adjoining the arm 5 while the other end of said bar 2 has an arm 7 extending at right angles therefrom and loosely surrounding bar 1. The two bars are thus held parallel at all times but capable of longitudinal movement in opposite directions.

The middle portions of the two bars rest loosely upon a plate 8 having an annular flange 9 which surrounds a gear 10. This gear is secured upon a bearing pin 11 journaled within plate 8 and a cap plate 12 which embraces the bars 1 and 2 and has outstanding ears 13 designed to be secured to ears 14 extending radially from flange 9. Gear 10 extends across one face of the bars 1 and 2 and a smaller gear 15 is formed on this pin 11 and is disposed between and meshes with the racks 3. Another small gear 16 meshes with gear 10 and is journaled upon plate 8, said gear 16 having a stud 17 extending through the plate 8 and carrying a ratchet wheel 18. A pawl 19 is pivotally mounted on plate 8 and designed to engage the ratchet wheel 18 and a crank 20 is connected to the projecting end of this stud so that the same can be actuated by hand. The plate 8 and the cap plate 12 coöperate to form a housing which conceals and protects the gears and prevents stones, etc. from entering therebetween and clogging or otherwise interfering with their movements.

Inasmuch as the gear 11 constantly meshes with the two racks it will be apparent that the same constitutes sufficient means for holding the housing formed by plates 8 and 12 constantly at the center of the jack. When it is desired to elongate the jack the crank 20 is turned so as to cause gear 16 to rotate gear 10 which in turn produces a corresponding rotation of gear 15. The two rack bars will therefore be shifted longitudinally in opposite direction. By placing the pawl 19 in engagement with the ratchet wheel 18 the rack bars can be held against return movement. By removing the plate 12 the entire housing can be detached from the rack bars for the purpose of cleaning or repairing the parts. It will be seen that the device is very compact durable, and efficient, and is particularly useful in outdoor work, because the housing amply protects the working parts from dirt, etc. Moreover, the arrangement of gears and racks renders the jack very powerful and as a result of the particular construction of the jack the same will be found useful for logging purposes.

It is of course to be understood that if de-

sired other forms of devices may be substituted for the head 4 and finger 6 shown.

What is claimed is:

A jack comprising a circular plate having an annular flange, a gear journaled upon the plate and surrounded by said flange, an arched cap plate detachably secured upon the flange and open at its ends, oppositely disposed rack bars slidably mounted upon the flanges and under and guided by the cap plate, said bars extending through the open ends of the cap plate, a gear revoluble with the first mentioned gear and extending between and meshing with the rack bars, said plates constituting a housing for protecting the gears, a drive gear meshing with the first mentioned gear and journaled between the plates, means for rotating said gear, means for locking said gear against movement in one direction, means upon each rack bar for slidably engaging the adjoining rack bar, and a head upon one end of each rack bar.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN W. CARLSON.

Witnesses:
R. H. MILLER,
WM. BAILEY.